PATENT
Application No. 09/868,379
Filing Date: 08/15/2001
Examiner: Lezah Roberts
Art Unit: 1612

Attorney Docket No. 2006-219/H03763

II. Amendment of Claims

Applicants amend claims 8-9, 13-16 and 20-25, as set forth below a listing of all of the claims in the application, with the status of each claim noted parenthetically, in accordance with 37 C.F.R. Section 1.121. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claims 1-7. (Canceled)

Claim 8. (Currently Amended) A suspension of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar, resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against agglomeration.

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Claim 9. (Currently Amended) A suspension comprising 1% to 40% by weight of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts are present in the form of primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1% by weight, based on the weight of the one or more calcium salts, of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar, said precipitation reaction resulting in the colloid being adsorbed onto and modifying said primary particles and the particles being stabilized against applications.

Claims 10-12. (Canceled)

Claim 13. (Currently Amended) A toothpaste comprising one or more silica polishing agents, humectants, binders or aromas and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite, and fluoroapatite, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against agglomeration.

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Claim 14. (Currently Amended) A method of remineralizing teeth comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxyproylguar resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against agglomeration.

Claim 15. (Currently Amended) A suspension of one or more phosphate calcium salts, or fluorophosphate calcium salts in a liquid medium according to claim 8, in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against accommendation.

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Claim 16. (Currently Amended) A suspension according to claim 9, comprising 1% to 40% by weight of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1% by weight, based on the weight of the one or more calcium salts, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against adolomeration.

Claims 17-19. (Canceled)

Claim 20. (Currently Amended) A toothpaste according to claim 13, comprising one or more silica polishing agents, humectants, binders or aromas and 0.1-5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite and fluoroapatite, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against agglomeration.

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Claim 21. (Currently Amended) A method of remineralizing teeth according to claim 14, comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.01% by weight, based on the weight of the suspension, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against acqlolmeration.

Claim 22. (Currently Amended) A toothpaste according to claim 13 comprising at least one humectant and 0.1–5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite and fluoroapatite, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1 by weight, based on the weight of the suspension, of a water-soluble polymeric protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against agglomeration.

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Claim 23. (Currently Amended) A toothpaste according to claim 22, comprising one or more silica polishing agents, humectants, binders or aromas and 0.1-5% by weight of one or more calcium salts selected from the group consisting of amorphous calcium phosphate, hydroxylapatite and fluoroapatite, said calcium salts being present in the form of a suspension of one or more of the salts in a liquid medium in which the salts are less than 1 g/l soluble, wherein the salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1 by weight, based on the weight of the suspension, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against adolomeration.

Claim 24. (Currently Amended) A method of remineralizing teeth according to claim 14 comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension comprising 1% to 40% by weight of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1% by weight, based on the weight of the suspension, of a water-soluble protective colloid selected from the group consisting of gelatin, casein, starch, plant gums, cellulose ethers, methylcellulose, hydroxyethylcellulose, carboxymethylcellulose, hydroxyethylstarch and hydroxypropylguar resulting in the colloid being adsorbed onto <u>and modifying</u> said particles and the particles being stabilized against acolomeration.

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Claim 25. (Currently Amended) A method of remineralizing teeth according to claim 24 comprising the steps of applying to a tooth a remineralizing-effective amount of a suspension comprising 1% to 40% by weight of one or more phosphate calcium salts or fluorophosphate calcium salts in a liquid medium in which these salts are less than 1 g/l soluble, wherein the calcium salts comprise primary particles having diameters of from 5 to 50 nanometers and lengths of from 10 to 150 nanometers, wherein the calcium salts are formed by precipitation reactions from acidic aqueous solutions of water-soluble calcium salts and aqueous solutions of water-soluble phosphate salts at an increased pH using an aqueous alkali or ammonia and in the presence of a content of at least 0.1 % by weight, based on the weight of the suspension, of a water-soluble gelatin resulting in the colloid being adsorbed onto and modifying said particles and the particles being stabilized against adolomeration.